Jan meet: This editor was unable to stay for the meeting due to the flu bug, and the
following is from a couple members who were there. Dave Shoenwetter presiding,
approximately 12 attended the meet. A video provided by Don Lamen of the Northwest
Computer Fest of 1987 was viewed in part. More will be shown at upcoming meets, to
borrow this VHS tape contact Don. Dave Smith was selling his equipment, due to a
career move to Florida. Wont you miss all this snow Dave? John Colonna unveiled swap
tape #3, and reports tapes are available from the library, and swaps are available on
disk and cassette. See page 11 for details. All public domain swap tapes/disks are
efforts of members, programs culled from swaps with other user groups and programs
typed from magazines, special efforts were made to assure credit given where due.

For those of you who have been following Wes Brzozowski's ROM disassembly, it will
continue. Due to a very heavy work load, Wes has not been able to devote
time to his hobby, or make meetings.

Feb meet: Again I was unable to stay for very long at the meet. But wow!, you guys
didnt have to do all that! Thank you for the artwork, the check and very much thanks
for the words. Being appreciated like that makes the work a little more fun, I keep
asking if anyone one else wants the editor's job, and I think it is just so no one
thinks I'm trying to hog it all! Dave tells me the rest of the video was shown. It
has a lot of background noise, so while the pics are fine the info is lost.

Hello and Welcome to SINCUS NEWS to Howard Chegwidden, Dover, NJ and Matthews Singer,
Westland MI and a Hello again and Thank you for RENEWING to Stu Walton, Rowley MA;
and Harold Crandall, Oxford CT, and Ken Diederich who is paid until Nov 1989 and
finally to William Walker of Huntington, West VA who is now paid up until January
1990!! Thank you for your faith in us, Ken and Bill! I hope we are around somewhat
beyond that year with our SINCLAIR still computing.

NOTE to modem users: a number of BBSs are supporting a petition drive of modem users
on the FCC's proposed TAX on modem use on telephone lines. There seems to be several
versions of what is being proposed and there is much hype on what it means to modem
users, I will will try to have in the next SINCUS NEWS what the proposal is and let
you decide what it means to you.-PAH

ZX81/TS1000 Tips-by Don Lamen, SINCUS

3.   Here is a little function, which may be placed at the beginning or within a machine code program, to stop the program until the tape player starts inputing data.

```
     XXXX DBFE    HOLD: IN A, (FE)
          CB7F          BIT 7, A
          28FA          JR Z, HOLD
```

     Where: XXXX represents the address.

4.   This is a routine to set RAMTOP and then install your machine code above it.
      As an example lets say that you have 80 bytes of machine code in 1 REM and you want to install it at address 30000 [7530 hex].

BASIC part:	UPLOAD Machine Code:		
1 REM [your machine code]	40D8 213075	UPLOAD:	LD HL, 7530; New RAMTOP
2 REM [UPLOAD machine code]	220440		LD(RAMTOP), HL
10) -- your	2B		DEC HL
---) -- BASIC	363E		LD (HL), 3E
---) -- program	2B		DEC HL
---) -- listing	3600		LD (HL), 00
8999 STOP	2B		DEC HL
9000 SAVE "name"	3606		LD (HL), 06
9010 RAND USR 16600	2B		DEC HL
9020 RUN	3676		LD (HL), 76
	220240		LD (ERR.SP), HL
	F9		LD SP, HL
	218240		LD HL, SOURCE
	113075		LD DE, DESTINATION
	015000		LD BC, No. of BYTES
	EDB0		LDIR
	C9		RET

                                34 Bytes

      To determine the address of "UPLOAD", PEEK 16511 + 256 * PEEK 16512 + 4 using a direct command. Then add this number to 16514. The result will be the required address.

      In my example there are no extra bytes in 1 REM. Therefore the PEEK would give 86. 16514 + 86 = 16600

ED NOTE: This is the second in a series of hints and tips Don has gleaned from several years of digging away at his 1000. His ability to take one through a difficult subject is appreciated.

KNIGHTED COMPUTERS: Just got a flyer from them, they are updating their mailing list, and if you want to stay on it, drop them a note. Nice to know our neighbors to the north are still around and kicking. Their address is 10 Canalview Mall, Fulton, New York 13069, tel:(315)593-8219. They have new software and a bunch of oldies but gooodies.

From Joan Kealy: Taken from CATS Newsletter Feb. 1988 in an open letter to the organizers of the upcoming TS Fest in Florida..." I just talked to Timex Service Center in Little Rock. They said they continue to try to take care of TS computers under warranty BUT would sell no SCLDs. ...if no SCLDs are available for extending the lifespan of 2068s. So why not try to muster enough customer signatures to pressure Timex Computer Corpse, holder of patents, to release the US based chip manufacturer from restrictions against the sale of SCLDs to repairmen, distributors, TSUGs, and/or TDM."

--Ed. Note: Joan raises a valid concern here, and maybe we can get together and push Timex. It will help those of us who love their 2068, and without a SCLD chip you have not much of anything. Ok, Joan you have our attention, now what? Why dont you draw up the letter, the due date and let's push!

Last issue I mentioned a reprint of an article by Nazir Pashtoon on Spectrum/TS2068 ROM addresses. Well, permission to reproduce them came too late to include in the last issue, so with thanks to SYNTAX's Kurt Olsen here is not only the ROM addresses but corrections to it! All corrections are on page 5:

LABEL	SPECT	2068	LABEL
1. MASK_INT	0038	0038	
2. CLEAR_SP	1097	0BFD	DEL_K
3. MAIN_4	1303	0E8D	LED4

Thanks to the sharp eyes of these gentlemen the above corrections have been noted.
1. Kurt Olsen, SYNTAX
2. Jack Dohany, Jack's Fairware
3. Wes Brzozowski, SINCUS
-Jack's correction was copyrighted, but he has put it in to the public domain. Some unidentified soul wrote on my copy "SAVE and LOAD Routines in Spectrum- 04C2 to 0991. To Nazir Pashtoon who has done so much for the TS community, THANK YOU! The following article and tables are reprinted by permission, Copyright SYNTAX ZX80, Inc. 1984.

COMPARATIVE ROM ATLAS:
FROM ZX SPECTRUM TO 2068

To convert SPECTRUM software to the 2068, you need the location and function of ROM routines in each. You can buy the annotated ROM disassembly from Melbourne House or Zebra Systems. Timex sells the 2068 technical manual. Our cross-index links the two ROMs.

This atlas lists routines in order of their hex address in the SPECTRUM ROM and provides the hex address for the corresponding 2068 routine. Labels and names for the SPECTRUM routines come from The Complete Spectrum ROM Disassembly by Ian Logan and Frank O'Hara. All labels and names for 2068 functions come from Corcoran and Branigin's Timex 2068 Technical Manual.

To disassemble the TS2068 Home ROM and 8K Extension ROM (EXROM), you will need a program like HOT Z (Reviewed in SYNTAX May 84). HOT Z has a large names file which you can load along with the program to provide subroutine names and some labels for the disassembly. HOT Z self-starts in disassembly mode, to display the Home ROM from 0000h.

In order to disassemble or use EXROM routines, you must enable the bank-switching logic, perform the desired task, then de-activate the EXROM. The 8K EXROM overlays the first 8K chunk of the 16K Home ROM.

To illustrate, the following code copies EXROM to RAM at 8000h, from which you can disassemble or display it.
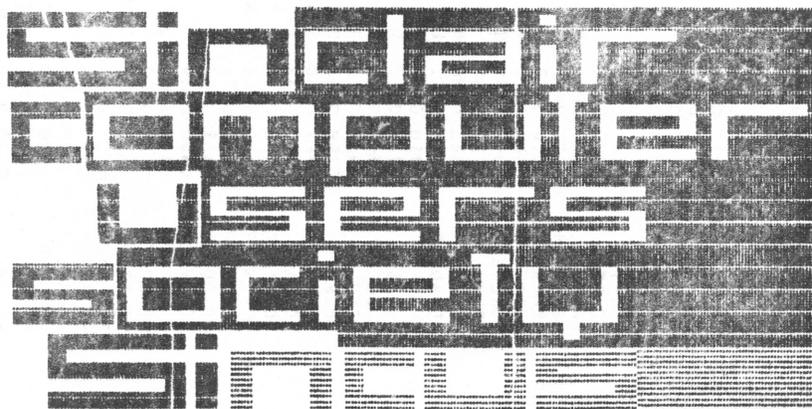
```
DI            :    LD BC,2000
LD A,01       :    LDIR
OUT (F4),A    :    XOR A
IN A,(FF)     :    OUT (FF),A
SET 7,A       :    OUT (F4),A
OUT (FF),A    :    EI
LD HL,0000    :    RET
LD DE,8000    :
```

Headscan (SYNTAX Sep.84) MC is an example of EXROM use. If you want to change the header storage location in RAM, change LD IX,FA3C to, say, LD IX,8000.

Finally, a note concerning the cassette routines of the 2068. All are located in the EXROM, but use subroutines and RST's in the Home ROM. When a call to the Home ROM or RST occurs, bank switching must take place. This adds code to the SPECTRUM documented by Logan.

Corresponding to every CALL or RST in SPECTRUM cassette routines, you find, in the TS2068 EXROM, a 23-byte code segment which starts with PUSH IX and ends with POP IX. This code preserves and sets up registers and calls the service routine at 0F99h in the EXROM. The service routine transfers the calls to the bank switching code in 2068 RAM, which in turn completes the call to the Home ROM.

N. A. Pashtoon, Port Jefferson, NY

Sinclair Computer Users Society SINCUS

Page 4 — SPECTRUM / TS 2068 ROM labels

LABEL NAME (SPECTRUM)	ROM Addr	ROM Addr (TS 2068)	LABEL NAME (TS 2068)
START	0000	C000	PLUGIN
ERROR-1	0008	0008	
PRINT-A-1	0010	0010	WRCH
GET-CHAR	0018	0018	
NEXT-CHAR	0020	0020	
FP-CALC	0028	0028	
BC-SPACES	0030	0030	
* MASK-INT	0038	0038	PHLAF
ERROR-2	004F	004F	
ERROR-3	0053	0053	LE.3
RSFT	0066	0066	
NO-RESET	0070	0070	
CH-ADD+1	0074	0074	NEXTCH
TEMP-PTR1	0077	0077	NC-HL
TEMP-PTR2	0078	0078	TC-HL
SKIP-OVER	007D	007D	
TOKENS	0095	0098	TOKENS
KEYTBL	0227	0245	
KEY-SCAN	028E	02B0	K-SCAN
KEYBOARD	02BF	02E1	UPD-K
K-REPEAT	0310	0336	
K-TEST	031E	035C	K-BASE
K-DECODE	0333	0371	CHCODE
BEEPER	03B5	03F3	PARP
BEEP	03F8	0436	BEEP
PRINT-OUT	09F4	0500	SEND-TV
PO-BACK-1	0A23	053A	P-LFT
PO-RIGHT	0A3D	0554	P-RT
PO-ENTER	0A4F	0566	P-NL
PO-COMMA	0A5F	0576	
PO-QUEST	0A69	0580	
PO-TV-2	0A6D	0584	
PO-ABLE	0A9B	05B2	SET-AT
PO-STORE	0AD2	05F0	
PO-FETCH	0ADC	05F3	STTVCU
PO-ANY	0B03	061A	LDTVCU
PO-ALL	0B24	063B	
PO-ATTR	0B7F	06B4	
PO-MSG	0BDB	0710	ATTBYT
PO-SAVE	0C0A	073F	PUTMES
PO-SEARCH	0C3B	0776	PR-TV2
PO-SCR	0C41	077C	
REPORT-5	0C55	0790	TVFUL?
TEMPS	0C86	07C1	ERR5
CLS	0CAD	0895	R-ATTS
CLS-LOWER	0D6B	08A6	K-CLS
CLS-ALL	0D6E	08A9	CLLHS
CL-ALL	0DAF	08EA	CLS
CL-SET	0DD9	0914	SET-CUR
CL-SC-ALL	0DFE	0939	SCRL
CL-LINE	0E44	097F	CLS-B

Page 5 — SPECTRUM / TS 2068 ROM labels

LABEL NAME (SPECTRUM)	ROM Addr	ROM Addr (TS 2068)	LABEL NAME (TS 2068)
CL-ATR	0E89	09C3	
CL-ADDR	0E9B	09D6	
COPY	0EAC	09E2	K-DUMP
COPY-BUFF	0ECD	0A23	DUMP-PR
CLEAR-PRB	0EEF	0A35	CL-PR
COPY-LINE	0F14	0A6F	
EDITOR	0F2C	0A82	EDIT-K
ADD-CHAR	0F31	0AE7	INSA
ED-EDIT	0FA9	0B12	
ED-DOWN	0FF3	0B59	
ED-LEFT	1007	0B6B	
ED-RIGHT	100C	0B73	
ED-DELETE	1015	0B7B	DELSYM
ED-ENTER	1024	0B8A	
ED-EDGE	1031	0B97	
ED-UP	1059	0BBF	
ED-SYMBOL	1076	0BDC	
ED-ERROR	107F	0BE9	
* CLEAR-SP	1097	0BFE	DEL-K
KEY-INPUT	10A8	0C0E	IN-K
ED-COPY	10DB	0C83	ECHO
REMOVE-FP	11A7	0D0D	DESLUG
NEW	11B7	0D1D	K-NEW
START/NEW	11CB	0D31	INIT
RAM-SET	11DC	0D7F	NEW
MAIN-EXEC	1219	0E28	
MAIN-1	12A2	0E2E	LED16
MAIN-4	12A9	0ED8	LED4
* REPORT-MSG	1303	0F65	
MAIN-ADD	1391	1158	
CH-INFO	155D	11AA	CHINIT
INIT-STR	15AF	11C1	SMINIT
WAIT-KEY	15C6	11CF	RDCH
INPUT-AD	15D4	11E6	INCH
OUT-CODE	15E6	11EA	PUTDIC
PRINT-A-2	15EF	11ED	SENDCH
CHAN-OPEN	15F2	1230	SELECT
REPORT-0	1601	123D	ERRO
CHAN-FLAG	160E	1248	SEL-HL
CHAN-K	1615	129A	
CHAN-S	1634	12A9	
CHAN-P	1642	12B3	
ONE-SPACE	164D	12B8	
MAKE-ROOM	1652	12BB	INS1
POINTERS	1655	12CA	INSERT
LINE-ZERO	1664	131E	REMGSZ
LINE-NO	169F	1324	
RESERVE	1695	132D	GET-LM
SET-MIN	169E	132D	LCU2
SET-WORK	16BF	134E	CLEL
REC-EDIT	16D4	1363	X-CALC / X-T-HL
SET-STK	16C5	1354	RESET

* see correction notes at beginning of article

Page 7 — SPECTRUM / TS 2068 ROM labels (continued)

LABEL NAME (SPECTRUM)	ROM Addr	ROM Addr (TS 2068)	LABEL NAME (TS 2068)
INDEXER	16DC	136B	SEARCH
			SRCHSC
CLOSE	16E5	139F	CLOSE
	16EB	13A8	RSTSTR
CLOSE-2	1701	13BE	CLCHAN
OPEN	1736	142A	OPEN
OPEN-1	1756	145E	
OPEN-2	175D	1465	
CAT-ETC.	1793	25C8	CAT
AUTO-LIST	1795	14E1	LIST
LIST	17F5	1541	K-LLST
LIST	17F9	1545	K-LIST
	1840	15AC	IPO
OUT-LINE	1855	15A1	PUT-SR?
OUT-LINE2	187D	15C9	PUT
NUMBER	1886	1602	
OUT-FLASH	18C1	160D	FLASHA
OUT-CURS	18E1	162D	PR-CUR
LN-FETCH	190F	165B	NEXT-L
LN-STORE	191C	1668	DE-HL
OUT-SP2	1925	1671	
LINE-ADDR	196E	16D6	FIND-L
CP-LINES	1980	16E8	CP-BC
EACH-STMT	1988	16F3	SUBLIN
NEXT-ONE	1988	1720	SUBLN1
DIFFER	19DD	1745	RECLEN
RECLAIM-2	19E5	1740	DEL-DE
E-LINE-NO	19E9	1750	DELREC
OUT-NUM-1	19BF	1768	LINENO
OUT-NUM-3	1A1B	1788	PUT-BC
LINE-SCAN	1A28	1795	PU-LN
STMT-LOOP	1A30	179D	
SEPARATOR	1B17	1A27	SYNTAX
STMT-RET	1B28	1A44	LS4
LINE-RUN	1B6F	1A82	
LINE-NEW	1B76	1A89	EXCUTE
REM	1B8A	1AD8	
LINE-END	1AEC	1B9E	
LINE-USE	1882	1B00	
NEXT-LINE	1883	1B09	
STMT-NEXT	18BF	1B15	
CHECK-END	1801	1B27	
CLASS-01	1876	1A89	ENDSTT
STMT-RET	1Bee	1844	END?
REPORT-2	1BF4	184A	ENDTEM
VAL-FET-2	1C1F	1B82	TEM1
	1C2E	1891	ERR2
	1C59	1BBC	LT22

LABEL NAME (SPECTRUM)	ROM Addr	ROM Addr (TS 2068)	LABEL NAME (TS 2068)
NEXT-2-NUM	1C79	1BDC	DYADIC
CLASS-06	1C82	1BE5	TEM6
REPORT-C	1C8A	1BED	SYNERR
CLASS-0A	1C8C	1BEF	TEM10
PERMS	1C96	1BF9	
FETCH-NUM	1CDE	1C49	OPTNQ
USE-ZERO	1CE6	1C51	STK-0
STOP	1CEE	1C59	STOP
IF	1CF0	1C5B	
FOR	1D03	1C78	FOR
LOOK-PROG	1D86	1D28	SKIP
NEXT	1DAB	1D55	NEXT
READ	1DEC	1D96	READ
DATA	1E27	1E82	DATA
RESTORE	1E42	1E9D	RAND
RANDOMIZE	1E4F	1EA4	RESTBC
REST-RUN	1E45	1ECA	CONT
CONTINUE	1E5F	1EE4	JUMP
GO TO	1E67	1EF1	
OUT	1E7A	1F04	
POKE	1E80	1F0A	
TWO-PARAM	1E85	1F0F	
FIND-INT1	1E94	1FIE	FIX-U1
FIND-INT2	1E99	1F23	FIX-U
REPORT-B	1E9F	1F2E	ERRB
RUN	1EA1	1F36	
CLEAR	1EAC	1F39	CLEAR
CLEAR-RUN	1EAF	1F99	CLR-BC
GOSUB	1EED	1FBB	GO-SUB
TEST-ROOM	1F05		CHK-SZ
REPORT-4	1F15	1FCF	ERR4
RETURN	1F23	1FD4	RETURN
PAUSE	1F3A	1FEF	PAUSE
BREAK-KEY	1F54	2009	BREAK
DEF FN	1F60	201D	DEF
***	****	2128	SOUND
UNSTACK-Z	1FC3	214F	K-LPR
LPRINT	1FC9	2155	K-PRN
PRINT	1FCD	2159	P-SEQ
PRINT-2	1FDF	217E	
PRINT-CR	1FF5	2194	
PRINT-ITEM1	1FFC	2198	
PR-STRING	203C	21DB	
PR-END-Z	2045	21E4	
PR-ST-END	2048	21E7	TERM?
PR-POS-1	204E	21ED	
STR-ALTER	2070	220F	STRITO
INPUT	2089	222B	I-SEQ
IN-ITEM-1	20C1	226B	

Printing problems made parts of the Spectrum - TS 2068 very difficult to read, hopefully you will be able to use this the table with this reprint:

page 4:

Spectrum		TS2068		Spectrum		TS2068	
LABEL Name	ROM addr	ROM addr	LABEL Name	LABEL Name	ROM addr	ROM addr	LABEL Name
PRINT-A-1	0010	0010	WRCH				
				COPY-BUFF	0ECD	0A23	K-DUMP
				CLEAR-PRB	0EDF	0A35	CLPR
				COPY-LINE	0EF4	0A4A	PRSCAN
				ED-RIGHT	100C	0B73	

THE MAJORITY OF THE PAGES SEEMED TO HAVE THE ABOVE PRINT PROBLEMS, IF YOU HAVE A PROBLEM WRITE ME, AND I'LL SEND YOU THE LINES YOU CANNOT READ.

SPECTRUM / TS 2068

LABEL NAME	SPECTRUM ROM Addr	TS 2068 ROM Addr	TS 2068 LABEL NAME
IN-ASSIGN	21B9	2363	
REPORT-H	21D4	237E	ERRH
IN-CHAN-K	21D6	2380	NOTKB?
CO-TEMP-1	21E1	238B	
CO-TEMP-2	21E2	238C	GR-COL
CO-TEMP-4	21FC	23A6	COLITM
CO-TEMP-7	2234	23DE	COLOUR
CO-CHANGE	226C	2416	
CO-TEMP-C	2273	241D	HIFLSH
BORDER	2294	243E	BORDER
****	****	24D2	NEWDEV
PIXEL-ADD	22AA	25A9	PASSEM
POINT	22CB	2624	SCRMAL
PLOT	22DC	2635	F-PNT
PLOT-SUB	22E5	263E	PLOT
STK-TO-BC	2307	2660	PLOTBC
STK-TO-A	2314	266D	GETXY
CIRCLE	2320	2679	CIRCLE
DRAW	2382	26DB	DRAW
CD-PRMS1	247D	27D6	
DRAW-LINE	2487	2810	DRAW-L
SCANNING	24FB	2854	EXPRN
SYNTAX-Z	2530	2889	INTPT?
S-ATTR-S	2580	28D7	F-ATTR
S-U-PLUS	25AF	296D	
S-LETTER	26C9	2A87	
S-FN-SBRN	27BD	2B7B	
S-SCREEN-S	2535	288E	F-SCRN
S-RND	25F8	2986	RND
S-PI	2627	29E5	F-PI
S-INKEYS	2634	29F2	F-INKEY
FN-SKPOVER	28AB	2C69	NXT-HL
LOOK-VARS	28B2	2C70	FIND-N
STK-VAR	2951	2D0F	
STK-F-ARG	2996	2D54	
SLICING	2A52	2E10	GET-EL
STK-ST-0	2AB1	2E6F	SLICER
STK-STO-1	2AB2	2E70	PSHSTR
STK-STORE	2AB6	2E74	PAEDCB
INT-EXP-1	2ACC	2E8A	
DE,(DE+1)	2AEE	2EAC	
GET-HL*DE	2AF4	2EB2	
LET	2AFF	2EBD	LET
L-ENTER	2BA6	2F64	
L-ADD-$	2BAF	2F6D	
L-STRING	2BC6	2F84	
L-FIRST	2BEA	2FA8	
STK-FETCH	2BF1	2FAF	POPSTR
DIM	2C02	2FC0	DIM

SPECTRUM / TS 2068

LABEL NAME	SPECTRUM ROM Addr	TS 2068 ROM Addr	TS 2068 LABEL NAME
ALPHANUM	2C88	3046	ALNUM?
ALPHA	2C8D	3048	ALPHA?
DEC-TO-FP	2C9B	3059	STKSUM
NUMERIC	2D18	30D9	DIGIT?
STK-DIGIT	2D22	30E0	
STACK-A	2D28	30E6	STK-A
STACK-BC	2D2B	30E9	STK-BC
INT-TO-FP	2D3B	30F9	ININT
E-TO-FP	2D4F	3100	
INT-FETCH	2D7F	3130	LDDE
P-INT-STO	2D8C	313A	STDE-U
INT-STORE	2D8E	314C	STDE-S
FP-TO-BC	2DA2	3160	FP28C
LOG(2↑A)	2DC1	317F	
FP-TO-A	2DD5	3193	FP2A
PRINT-FP	2DE3	31A1	OUTPUT
CA=10*A+C	2F8B	334A	
PREP-ADD	2F9B	335A	
FETCH-TWO	2FBA	3379	SUMSLD
SHIFT-FP	2FDD	339C	SHIFT
ADD-BACK	3004	33C3	
SUBTRACT	300F	33CE	SUB
addition	3014	33D3	ADD
HL=HL*DE	30A9	3468	MULT
PREP-M/D	30CA	347F	
multiply	30CA	3489	
REPORT-6	31AD	356C	ERR6
division	31AF	356E	DIVIDE
truncate	3214	35D3	TRUNC
RE-ST-TWO	3293	3052	
multiply	30CA	3489	TIMES
RE-STACK	3297	3656	FLOAT
FP calculator start:	32C5	3684	
CALCULATE	335B	371A	CTRO
fp-calc-2	33A2	3761	
TEST-5-SP	33A9	3768	ROOM?
STACK-NUM	33B4	3773	STK-M
MOVE-FP	33C0	377F	RAMNO
STK-DATA	33C6	3785	
SKIP-CONS	33F7	37B6	
LOC-MEM	3406	37C5	ARRAY
get-mem-0	340F	37CF	
stk-zero	341B	37DA	
st-mem-0	342D	37EC	
EXCHANGE	343C	37FB	
series-06	346A	3829	
NEGATE	346E	382D	NEGATE
sgn	3492	3851	
ln	34A5	3864	

SPECTRUM / TS 2068

LABEL NAME	SPECTRUM ROM Addr	TS 2068 ROM Addr	TS 2068 LABEL NAME
peek	34AC	386B	
usr-no	34B3	3872	
usr-$	34BC	387D	
TEST-ZERO	34E9	3904	TESTO
GREATER-0	34F9	3914	
NOT	3501	391C	
less-0	3506	3921	
FP-0/1	350B	3926	STBOOL
or	351B	3936	
no-&-no	3524	393F	
str-&-no	352D	3948	
no-l-eql	353B	3956	
strs-add	359C	39B7	
STK-PNTRS	35BF	39DD	
chr$	35C9	39E4	
val-&-val$	35DE	39F9	
str$	361F	3A3A	
read-in	3645	3A60	
code	3669	3A84	
len	3674	3A8F	
dec-jr-nz	367A	3A95	
JUMP	3686	3AA1	
jump-true	368F	3AAA	
end-calc	369B	3AB6	
n-mod-m	36A0	3ABB	
****	****	3AC5	INTDIV
int	36AF	3ACA	LDMES
EXP	36C4	3ADF	INT
ln	3713	3B2E	EXP
get-argt	3783	3B9E	ANGLE
cos	37AA	3BC5	COS
sin	37B5	3BD0	SIN
tan	37DA	3BF5	TAN
atn	37E2	3BFD	ATN
asn	3833	3C4E	ASN
acs	3843	3C5E	ACS
sqr	384A	3C65	ROOT
to-power	3851	3C6C	TO-THE
		3C89	SEPRMT

(note: SEPRMT are tape msgs.)

'spare'	386E	3CDC	'EMPTY'
charctr-set	3D00	3D00	CH-SET

The Spectrum does not support
the following routines:

****	****	17B5	AROS
****	****	17CF	GETAL
****	****	17EA	AR-LN
****	****	17FF	AR-NXT
****	****	18C6	AAROS

TIMEX EXROM — SPECTRUM / TS 2069

SPECTRUM LABEL NAME	SPECTRUM ROM Addr	TS 2069 ROM Addr	TS 2069 LABEL NAME
SA-BYTES	04C2	0068	W-TAPE
SA-LEADER	04D8	007E	
SA-LOOP	04FE	00A4	
SA-BIT-2	0511	00B7	
SA-8-BITS	0525	00CB	
SA/LD-RET	053F	00E5	W-BORD
REPORT-D	0552	00F8	
LD-BYTES	0556	00FC	R-TAPE
LD-BREAK	0568	0111	
LD-LEADER	0580	0126	
LD-SYNC	058F	0135	
LD-8-BITS	05CA	0170	
LD-EDGE-2	05E3	0189	RD-BIT
LD-EDGE-1	05E7	018D	RD-EDGE
LD-SAMPLE	05ED	0193	SLVM
SAVE-ETC	0605	01AB	
REPORT-F	0642	0228	
SA-NAME	0648	0231	
SA-DATA	0652	0238	
SA-V-OLD	0672	029A	
SA-V-NEW	0685	02A9	
SA-SCRS	06A0	02F2	
SA-CODE	06C3	032E	
SA-LINE	0716	0447	
SA-ALL	075A	04C9	
LD-LOOK-H	0767	04D6	
LD-NAME	07A6	053D	
VR-CONTROL	07CB	058F	VERIFY
LD-BLOCK	0802	05C6	
LD-CONTROL	0808	05CC	LOAD
LD-DATA	082E	0606	
LD-PROG	0873	0673	
ME-CONTROL	0886	06E5	MERGE
ME-OLD-VP	08F9	0752	
ME-ENTER	092C	0799	
ME-ENT-1	093E	07CF	
ME-ENT-3	0958	0925	
SA-CONTROL	0970	0851	SAVE
SA-1-SEC	0991	089A	

The balance of EXROM contains
the Function Dispatcher, Bank
Switching Code, and various
other routines, which does not
have counterparts in the Spectrum.
A total of approximately 2K Bytes
of EXROM is unused.

```
  2 REM "Lotto by Paul Hill,Feb. 1985 Johnson City,NY (SINCUS)
  8 REM ++set array of 44++
 10 DIM m(4,11)
 15 LET n=PI/PI
 20 FOR a=1 TO 4
 30 FOR b=1 TO 11
 40 LET m(a,b)=n
 50 LET n=n+1
 60 NEXT b
 70 NEXT a
100 REM ++place numbers++
104 FOR t=1 TO 2
105 LET r=2
120 FOR a=1 TO 4
125 LET c=0
130 FOR b=1 TO 11
140 PRINT AT r,c;m(a,b)
143 LET c=c+3
148 IF c>31 THEN  LET c=0
150 NEXT b
160 LET r=r+2
170 NEXT a
200 REM ++move cursor "↑"++
202 DIM s$(6,2)
205 FOR s=1 TO 6
220 PRINT AT 19,0;"Use Arrow KEYS to move cursor-↑"
225 PRINT """ENTER"" KEY to select number"
280 LET r=3: LET c=0: LET a$="↑"
281 PRINT AT r,c;a$: PAUSE 0: PRINT AT r,c;" "
282 LET c=c+3*((INKEY$="8" AND c<30)-( INKEY$="5" AND c>0))
284 LET r=r+2*((INKEY$="6" AND r<9)-(INKEY$="7" AND r>3))
289 IF INKEY$=CHR$ 13 THEN  GO TO 300
292 GO TO 281
300 REM ++save number in s$++
320 PRINT AT r,c;a$
340 LET s$(s, TO 2)=STR$ m((r-1)/2,(c/30*10+1))
342 IF s>=2 THEN  GO SUB 400
345 PRINT AT 15,0; INVERSE 1;"Your pick of Lotto numbers"
350 PRINT AT 16,s*3;s$(s, TO 2);" ";
352 PRINT AT r-1,c; BRIGHT 1; INVERSE 1;s$(s, TO 2)
355 PRINT AT r,c;" "
356 LET r=3: LET c=0
360 NEXT s
365 CLS
370 NEXT t
390 STOP
400 REM ++chek for repete++
410 FOR w=1  TO s-1
420 IF s$(s, TO 2)=s$(w, TO 2) THEN  GO TO 450
430 NEXT w
440 RETURN
450 REM ++ reset for repete ++
460 PRINT AT r,c;" "
470 PRINT  FLASH 1;AT 15,13;"REPEAT"
490 GO TO 205
```

USE CURSOR TO SELECT FROM A LIST

In the Sept/Oct 87 Sincus News, "A Cursor Pad" described how a home-made "Cursor Pad" (or a Joystick) could be used to move the cursor on the screen and thereby select one item from a list.

That demo program was valid only if the list did not exceed 20 items. This program will work with a list of any length.

The routine DISPLAY LIST, from 230 TO 250, breaks up the list into pages of no more than 19 items. It also adds 'PAGE BACK" to the top or the page for pages after the first, and "PAGE FORWARD" to the bottom of the list for all but the last page.

The routine "SELECTOR", from 200 to 222, uses input from the right-hand joystick port to move the cursor up and down the page. The firing button registers the selection. If the selection is either "PAGE BACK" or "PAGE FORWARD", then another portion of the list appears on the screen.

If you prefer the keyboard to the joystick port, you need to change only two statements:

206 LET s2=CODE INKEY$: LET s1=1*(s2=55)+2*(s2=56)+3*(s2=13)

216 IF s1=0 THEN GO TO 206

Now the 6 and 7 keys will control the motion of the expanded cursor, and ENTER determines the selection.

This SELECTOR routines differs in two respects from the one in the previous article. First: the cursor will jump from the top to the bottom of the displayed page (and vice-versa); this speeds the search for the proper page. Second: the motion of the cursor is limited by blank lines at the top and bottom of the display. This idea came to me from Chuck Dawson and/or Lafe McCorkle through a newsletter written by Ron Havlen for users of the Portuguese Disk System.

Hal Bellinson

```
1 REM ** SELECTOR DEMO **
2
10 GO SUB 400
15
50 REM   USE SELECTOR
60 GO SUB 230
70 CLS : PRINT A$(i): STOP
80
200    REM    SELECTOR
202 LET m4=m2-m1+2: IF m1=1 OR
 m2=N THEN LET m4=m4-1
204 OVER 1: DIM s$(6): GO SUB 2
22
206 LET s1 = STICK (1,2): LET s
2= STICK (2,2)
208 IF s1=2 AND SCREEN$ (i+1,0)
<>" " THEN LET j=i+1: GO TO 220
210 IF s1=2 THEN LET j=-m4: GO
TO 220
212 IF s1=1 AND SCREEN$ (i-1,0)
<>" " THEN LET j=-1: GO TO 220
214 IF s1=1 THEN LET j=+m4: GO
TO 220
216 IF s2=0 THEN GO TO 206
218 OVER 0: RETURN
220 GO SUB 222: LET i=i+j: GO S
UB 222: GO TO 206
222 PAUSE 5: PRINT AT i,0: INVE
RSE 1:s$: RETURN
225
230    REM  DISPLAY LIST
232 LET m3=19: LET m1=1: LET m2
=m3
234 CLS : IF m2>N THEN LET m2=
N
236 LET m4=(m1=1): PRINT AT m4,
0;"..." THEN PRINT "PAGE F
ORWARD"
238 IF m1>1 THEN  PRINT "PAGE B
ACK"
240 FOR j=m1 TO m2: PRINT A$(j)
: NEXT j
242 IF m2<N THEN PRINT "PAGE F
ORWARD"
244 LET i=2: GO SUB 200
246 IF i>1 AND i<m3+2 THEN LET
i=i+m1-2: RETURN
248 IF i=m3+2 THEN LET m1=m2+1
: LET m2=m2+m3: GO TO 234
250 IF i=1 THEN LET m2=m1-1: L
ET m1=m1-m3: GO TO 234
255
400    REM   CREATE LIST
410 LET N=50: DIM A$(N,7)
420 FOR I=1 TO N
430 LET A$(I)="ITEM "+STR$ I
440 NEXT I: RETURN
```

7

OLIGER 2068 DISK SYSTEM PRICES AND BASIC INFORMATION

-+-

DISK BOARD "A"
Bare pc only: $17.95pp.
Kit of board with parts: $55.95pp
Assembled & tested: $66.95pp

Two drive data cable for above, 3 foot long total: $16.95pp
Four drive data cable for above, 4 foot long total: $26.95pp
WD1770PH-00 disk controller chip: $19.95pp (spare or replacement-limit 1 per order)

-+-

DISK BOARD "B" W/NMI SAVE
Bare pc with JLO SAFE Disc Basic eprom: $26.95pp
Kit of board with parts: $45.95pp
Assembled & tested: $63.95pp

-+-

PACKAGE OF BOTH DISK BOARDS "A" & "B"
Bare pcs only with JLO SAFE Disk Basic eprom: $43.95pp
Kit of both boards with parts: $99.95pp
Both boards assembled & tested: $127.95pp

Both boards, assembled & tested w/2-drive data cable: $139.95pp
Both boards, assd w/2-drv data cable & assd 2068 Expansion Bd: $189.95pp

-+-

-FACTS CONCERNING THE OLIGER 2068 FLOPPY DISK SYSTEM-

The DiskWorks! Both bds.assd w/2-drv data cable & assd 2068 Expansion Board IS REQUIRED to connect these boards to your TS2068 computer.

The JLO SAFE (Simple And Fast Extended) Disk Basic V2 eprom supplied with the Disk "B" board was written by John Oliger for use on this system. SAVing & LOADing using JLO SAFE V2 is very straightforward, using the EXACT same syntax the regular cassette commands use, but with the character "/" following the SAVE/LOAD command. An example of SAVing a Basic program with variables would be SAVE /"FILENAME" or SAVE /"FILENAME" LINE n. JLO SAFE V2 supports ALL the various types of SAVE/LOADs supported by the cassette in ALL the regular combinatons. This includes Basic programs (regular & autorun), CODE/SCREEN$ files (LOADed with SAVEd defaults to use if LOADing parimeters are not specified, just as the cassette commands do), numeric arrays, character arrays (DATA) and two NEW types of files; VAL for variables SAVE/LOAD and ABS for TOTAL STATE SAVE/LOADS (IE: EVERYTHING is LOADed or SAVEd!). JLO SAFE V2 supports up to 177 files per disk (plus a special file 0) and its total formatted capacity is variable depending on the type of drive used with the system. SAFE V2 can support disk track densities up to 255 tracks/double sided (if they existed now) or as small as 10 track single sided if such a small capacity drive existed. Using a 80 track double sided drive with SAFE set for 80 track/double sided, 795K of formatted disk space is free on a newly formatted disk. If you can squeeze 83 tracks out of your drive, you will end up with 825K of formatted disk space! A 40 track double sided drive will leave you 395K of free disk space at 40 tracks and a 40 track single sided drive will leave 195K of free disk space at 40 tracks.

SAVE/LOAD speed is as fast or faster than any other 2068 DOS available. SAFE V2 can SAVE/LOAD 48K in less than 4 seconds total. SAFE V2's CATalog can display every file currently stored on the disk, with the familiar "scroll?" prompt used just like is normally done with a long Basic listing.

This disk I/F W/JLO SAFE V2 is compatible with the 2068 in regular 2068 mode, Spectrum emulator/Romswitch mode, or Zebra OS64 cartridge mode. SAFE sets itself up to support any of these configurations on power up, totally transparent to the user. JLO SAFE will also work w/all AROS cartridges and has built-in software support for the Oliger 2068 Printer Port; No more loading of printer drivers! But, you CAN still use your 2040 printer as usual with SAFE V2 if desired.

Also now STANDARD on the Oliger 2068 Disk I/F is the NMI pushbutton SAVE feature, allowing the use of the Disk I/F with just about every piece of software a person could have at the press of a button. This Disk I/F w/JLO SAFE V2 is very likely the fastest most user friendly disk system available for the 2068, period. It is compatible with 2068, OS68, or Spectrum modes of the 2068, and will work transparently with AROS cartridges, be the Oliger User Cartridges or Timex Command Cartridges. In my opinion, it is simply the BEST disk system available for the TS2068.

In summary, the Oliger 2068 Disk I/F w/JLO SAFE V2 is very likely the fastest to 4 double density 3", 3 1/2", or 5 1/4" drives.

John L. Oliger

DISK MANUAL ONLY - $2.50 PP
(You can READ ABOUT THE SYSTEM BEFORE YOU BUY!)

OLIGER DISK I/F W/JLO SAVE
SPECIFICATIONS

Number of drives supported: 1, 2, 3, or 4

Number of sides per drive: 1 or 2

Number of tracks per side: 10 - 255 allowed. Most drives allow only 40 or 80.

Amount of 2068 ram or memory space used by DOS: NONE

Booting of DOS required?: NO. SAFE is contained on an eprom in another bank.

SAVE/LOAD transfer speed: 250K bits per second (32K bytes per second)"

True LOAD speed with DOS overhead: 48K bytes in aprox. 4 seconds

True SAVE speed with DOS overhead: 48K bytes in aprox. / seconds (Auto Verifys)

Formatted capacity per disk: 40 track double sided=395K
80 track double sided=795K
83-track double sided=825K
40 track single sided=195K

Maximum number of files allowed per disk: 177

Disk allocation cylinder size: 5K

Double Density: YES, always

Compatible with Spectrum mode 2068?: YES

Compatible with OS64 cartridge?: YES

Compatible with AROS cartridges?: YES

Snapshot SAVE?: YES

Other functions supported by snapshot SAVE button? YES. Also supports a SCREEN$ SAVE to disk, a screen copy to the Oliger Printer Port, or a return to Basic.

Big printer support built in? YES. Supports Oliger Printer Port and some combinations of the Aerco Printer I/F used with some printers.

File types supported by DOS: ALL cassette type files are supported in all the possible combinations along with a new variables only SAVE/LOAD and total state (everything) SAVE/LOAD.

Command Syntax easy to learn? YES. SAVE/LOAD commands are EXACTLY as is required for the cassette commands but with the "/" character immediately after the SAVE or LOAD keyword. EG: SAVE /"Program" LINE 1 or LOAD /"screen" SCREEN$

THE JOHN OLIGER CO.
11601 Whidbey Drive
CUMBERLAND, INDIANA 46229
Affordable H/W Expansion

NEW for your TS2068 from LARKEN ELECTRONICS

** The LARKEN 256K RAMDISK **

Finally available for the 2068 is a practical memory expansion that can be used with all 2068/spectrum software. The Larken Ramdisk system is as easy to use as a tape recorder or floppy disk.

When Timex originally designed the 2068 they planned on having a expansion buss system that would allow extra memory and other peripherals such as disk, microdrives etc to be easily added and linked to the 2068. This operating system. However they never did complete this proposed operating system due to the cancellation of production of the 2068. Even if they had it would not have been spectrum compatable, so only programs written for the 2068 would work on it.

The Larken ramdisk system consists of the LKDOS cartridge (memory board) and a rear mounted NON-VOLATILE. The Larken disk operating system and a rear mounted NON-VOLATILE. The Lkdos cartridge allows you to access the ram disk with all the standard BASIC commands such as LOAD SAVE CAT ERASE FORMAT MERGE etc. The Lkdos lets the ram board emulate a very fast floppy disk. It can load 32K bytes in 1.5 seconds. Programs can be saved, loaded or merged just as you do with a floppy disk and the Lkdos keeps a catalog of all files on the ramdisk which is accessible by the CAT command. All the standard cassette type commands are preceded by Print #4 placed in front of the cassette. eg: Print #4 Load "filename" SCREEN$ instead of cassette. eg: type command to "direct it to ramdisk instead of cassette. eg: Print #4: Load "filename" SCREEN$

The Memory board mounts on the rear buss of the 2068 and has a thru connector. It uses the new 32K byte static ram chips (the 62256-1p). These cost aprox $13 each in the US. The board comes with 64K (2 chips) but the user can add up to 6 more for a total of 256K. There are 4 sockets on the board so the first 128K bank can be just plugged in but the 2nd 128K must be piggybacked (and soldered) onto the back of the 1st bank. A board with 128K or 256K installed can also be supplied on special order.

The memory board is fully Battery Backed up by 2 'AA' batterys on the board. These will retain data for months. A special automatic Write Protect circuit protects data during power up or down. The board is very reliable and can even be removed from the computer and transported with out losing data. The data can be verified. The ramdisk is also sumchecked by Lkdos so files can be verified.

The memory board is mapped into the upper 32K of the cartridge bank. A port on the board can select 1 of 8 banks of 32K. This memory could also be used by the user to contain a Aros software program in one of the banks while not interfering with the ram disk operation.

The Ramdisk is fully compatable with the Larken Floppy Disk Interface and also Ramex and Oliger disk systems if they are using the Lkdos cartridge as their DOS. When used with a floppy disk system, the Goto commands are written for the current drive. All programs and utilities written for the floppy disk are fully compatable with the ramdisk.

It is also Spectrum and OS64 compatable. Besides having the 16 Extended Basic commands for windows, the Lkdos cartridge also has Extended Basic commands for windows, graphics and utilities. A NMI snapshot push button can even be added to the Ramboard so any program can transfered to ramdisk with the push of a button. A program is also included to download the contents of the ram disk to cassette or floppy disk.
All Larken products have a 90 day money back guarantee.

PRICES: -RAMDISK (with 64K) and LKDOS $129.95
        -Memory board only (for adding to existing $79.00
        -Lkdos disk system (64K)
        -Complete Lkdos storage system -400K floppy ...$179.95
         disk interface, Ramdisk (64K) and LKDOS

LARKEN ELECTRONICS, RR#2 NAVAN ONTARIO CANADA K4B-1H9.
                    (613)-835-2680

All prices are ($US), add $5 shipping

LARKEN 2068/SPECTRUM PRODUCTS

LKDOS -EXTENDED BASIC Cartridge
This multi function software cartridge is fully Spectrum compatible. It resides in the cartridge dock but is not a Aros or AROS. It shadows an area of the Sinclair Rom and takes over control when its commands are used. Other cartridges such as the OS-64 or Spectrum emulators can still be used such as modification. The LK-ExBC uses none of your program ram as it has its own 8K ram and 8K Rom on the cartridge.
-All commands, LKDOS or Extended Basic use standard keyboard com-mands preceded by PRINT #4: eg: PRINT #4: FORMAT "diskname" LKDOS will support 1 to 4 floppy diskdrives as well as a 256K Nonvolatile RamDisk. The dos automatically keeps a catalog of all files on disk and takes care of all file space allocation etc. Basic Code and Array file types are handled the same way as the cassette.
The commands for LKDOS are LOAD SAVE CODE, ARRAY, SCREEN$, MERGE, LINE, CAT, FORMAT, ERASE, VERIFY, PRINT, GOTO, OPEN, CLOSE.
Also any program can be transfered to disk with the push of a button (Using NMI save push button on disk interface).

Extended Basic commands are regular commands redefined when preceded by PRINT #4:
Eg: PRINT #4: CIRCLE x,y,(pattern)   -is now a graphic Fill command with 10 different patterns.
Other commands include; multiple windows, Box clear and fill Channel opening for Disk, Printer and screen, variations of Poke, Paper, Ink and Clear.
-This cartridge is also available for the   Aerco Ramex and Oliger disk systems. When the cartridge is installed they will emulate a Larken Disk system.

NEW 400K 2068/Spectrum Disk Interface (DSK-400)
This double density disk interface will put 400K on a double sided 40 track drive. It can control up to 4 - 3" ,3.5" or 5.25" single sided,double sided or quad density drives. This board is a compact low profile design that connects to the rear buss on the 2068 and has a thru connector. It can load 32K in less than 5 seconds. The NMI (snap shot) pushbutton is on the board and there is also a KEMPSTON compatible joystick port on the board. The LKDOS cartridge is used combined with this pinterface. The Lkdos cartridge combined with this interface will give you a 2068/Spectrum disk system second to none.

ZX81 / TS1000 Disk Controller Board
This disk controller for the ZX81/TS1000/1500 will put 160k on a double sided 5.25" drive. It attaches to the computer via a ribbon cable and can control 2 drives. It can also be used on the 2068 if the LKdos cartridge is also installed.
For the ZX81 the Ldos on the interface provides 6 commands. They are LOAD SAVE DIRECTORY DELETE FORMAT and EXIT. Basic Arrays and Code files are also supported.(This board is great if you use both 2068 and ZX81)

256K Nonvolatile Ramdisk
This memory extension is as easy to use as a Floppy disk or tape recorder. This rear mounted memory board also uses the Lkdos cartridge for its operating system. The PRINT #4:GOTO (device) command is used to direct the Dos to Floppy disk or Ram disk. All LKDOS floppy disk commands are treated the same for ramdisk. It can be used with the Floppy disk interface or without.
It uses the new 32K byte static ram chips (62256-1p) and is supplied with 64K. More chips can be added for up to 256K.
Two 'AA' batterys provide battery backup for data retention.

PRICES ---   LKDOS EXTENDED BASIC cartridge $65.00
(All prices)   400K System(Cartridge + 400K Interface) $119.95
(are $US)   ZX-81 Disk Controller $79.95
                 Ramdisk with 64K $8.00
                 Disk ribbon Cable (1 drv)   (add $5 S&H)
                 Disk Editor and Utilities (2068) $5.95

All products have a 90 day money back Guarantee

LARKEN ELECTRONICS
RR#2 NAVAN ONTARIO CANADA K4B-1H9   tel-(613)-835-2680

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Jack Dohany   390 Rutherford
415-367-7781   Redwood City, CA 94061

JANUARY 1988

*** FAIRWARE NEWS ***

THE PURGE
So who's left? Did you get a Mac II for Christmas? I'm updating my mailing list. If you want to remain on it, please say so.

NEW CATALOG
I'm not budgeted to do mass-mailings of my catalog. It gets revised frequently. Whenever you want the latest FAIRWARE catalog, please send $1 and a self-addressed stamped envelope.

1988
I plan to take the whole year off from my regular work (making wooden toys) and spend it writing (and selling) software for my favorite computer: the 2068. Yeah, it's scary. Will I starve?

ORDERS
When ordering, please use my current order blank. I have a hard time ferreting out from letters what it is that folks want, and what equipment they have. Every order is a custom order. I do my best to match my software to your equipment.

PRICES
Due to popular request and to my own economic needs, FAIRWARE programs are no longer sold by donation, but have set prices. Orders now should be prepaid. Your satisfaction is guaranteed: you may have a refund upon request for anything you get and can't use, except for the $5 Media/Postage/Handling charge which is not refundable. You need not return media.

DISC
I now support ALL 2068 mass storage devices except RAMEX. (I suggest RAMEX owners get an LKDOS cartridge!). I'm looking for a used ZEBRA disc system. Got one for sale?

CUSTOMIZED MSCRIPT
V5.3 is done. It has 52 user-definable printer control-code sequences, easily imbedded in text. But it cannot use FONTMAN fonts. V6 will be able to use the fonts. V6 is STILL not done. I ran out of time to work on it last year. It will be done some time this year... I hope by April or May. Details upon request.

OTHER SOFTWARE IN THE WORKS:
-SUPERDRIVER: a package of software for big printers, to replace my inadequate Relocatable Aerco Print Driver V4. It will fully support all printers and printer interfaces.
-BIGFONT: to enable creating, editing and using fonts of large detailed characters ..NOT just blown-up 8X8 characters.
-ART: an "ultimate" graphics program, for mice etc.
-FLOW: a special-purpose graphics program, for flowcharting.

Your suggestions are always welcome. Happy 1988!

Jack Dohany
390 Rutherford
Redwood City, CA 94061

*** FAIRWARE CATALOG ***   Page 1 of 2
                                  January 1988
                                  415-367-7781

This is a list and brief description of currently-available FAIRWARE programs. Please also see the accompanying FAIRWARE INFORMATION sheet and FAIRWARE ORDER BLANK.

CUSTOMIZED MSCRIPT V5.3 (Copyright Micro Sytems Inc)
-You must be a legal MSCRIPT owner to get it.
-Features too numerous to list here; see separate sheet.
-V6 will be done sometime in 1988.

PRINWT
-Allows loading/printing of Mscript textfiles.
-Needed to print documentation accompanying FAIRWARE programs if you don't have Customized Mscript.

CONVERTM
-Converts an MSCRIPT textfile to/from BASIC array A$.
-Entirely in BASIC.

RELOCATABLE AERCO PRINT DRIVER (V4)
-"Relocatable" means the machine-code driver may be loaded and used at more than just one area of memory, to avoid conflicts.
-Works on Spectrum or 2068.
-Soon to be replaced by Superdriver.

BASIC DISASSEMBLER
-Z80 disassembler written in BASIC.
-For students of machine code.

CAT
-Lists/prints file headers from cassette/A&J/AERCO disc.

LISTER
-Lists all or part of a BASIC program to screen or printer in a more legible way than provided by LIST or LLIST commands.

TOOLKIT for BASIC programmers
-Collection of short relocatable machine-code routines for: renumbering, compaction, killing REMs, and listing variables.

EZEDIT for BASIC programmers
-A large non-relocatable toolkit operating in Interrupt Mode 2.
-Functions: Renumber, Copy, Find, Auto Line Numbering, etc.
-Requires 10K data line resistors which Spectrum has and stock 2068 lacks. Instructions for adding resistors included.
-Similar to Beta Basic, but smaller, simpler and cheaper.

LOCAL AREA BBS NUMBERS
(UPDATED 21 DECEMBER, 1987)

NOTE: All hours are in twenty-four hour notation.
"?"s denotes a lack of information for that particular item.

BBS NAME	TELEPHONE #	BAUD /	HOURS
Amiga Developer's	(607)-754-5086	3/12/24	0-17
Back Door	(607)-748-5254	3/12/24	??????
Bates Motel	(607)-789-7794	3/12/24	24 HRS
Bow-Wow	(607)-648-2511	3/12	24 HRS
Broome Computer Union	(607)-798-1734	3/12/24	24 HRS
Cayuga Lake OPUS	(607)-387-9527	3/12	24 HRS
C.I.A.	(607)-324-0197	3/12	24 HRS
Cortland/Tompkins County	(607)-844-4475	3/12	24 HRS
Cygnus	(607)-729-5505	3/12/24	24 HRS
Front Door	(607)-785-8860	300	??????
The Play Pen (Harry Net 11)	(607)-771-8654	3/12	24 HRS
In Your Head	(607)-729-5943	3/12/24	24 HRS
JR-TIME	(607)-748-7247	3/12/24	24 HRS
Mission Control	(607)-798-0973	3/12	24 HRS
Mr. Bill	(607)-272-0982	3/12	24 HRS
Mister Bulletin Board	(607)-277-4850	3/12	18-9
Nitewing	(607)-687-3470	3/12/24	24 HRS
OFA-PC (NODE 1)	(607)-754-3420	3/12/24	24 HRS
OFA-PC (NODE 2)	(607)-687-4346	3/12	24 HRS
Opus Focus	(607)-772-8024	3/12	24 HRS
PC-Plus	(607)-785-6876	3/12/24	24 HRS
PC-TIE HOST	(607)-755-8195	3/12/24	24 HRS
Peanut Gallery	(607)-687-9910	???????	21-6
River Rat	(607)-687-2241	3/12	24 HRS
Star Chamber	(607)-648-8183	3/12/24	24 HRS
B.I.R.C.C.	(607)-729-9559	3/12	24 HRS
T.C.C.S.	(607)-785-2118	3/12/24	24 HRS
Toys in the Attic	(607)-797-4522	3/12	24 HRS
Unicorn Haven	(607)-729-4655	3/12	18-7
XT Connection	(607)-625-4547	3/12/24	24 HRS

Please address any additions or corrections to this list to the SYSOP.

SYSOPs=======>
PLEASE FORWARD ANY CORRECTIONS YOU SEE TO ME AT ANY OF THE
FOLLOWING BBS'S
PC-TIE HOST
IN YOUR HEAD
TCCS
BROOME COMPUTER UNION
TOYS IN THE ATTIC
OFA-PC

ALEX MARVILLCHULK
STELLAR BBS

LOCAL AREA BBS NUMBERS

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!!! Potpourri !!!
SINCUS EXCHANGE TAPE # 103
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NEW SINCUS EXCHANGE TAPE
NOW AVAILABLE FOR OLIGER SYSTEM
<=========

SinCUS Exchange Tape #103 is now available. This tape will be offered in various media. It will be offered on cassette tape or on 5 1/4" disk for the Oliger Disk Drive system (SS or DS double density). The new offering, like the previous ones, is compilation of programs from SINCUS members, exchanges from other clubs, CompuServe, and local bulletin boards. The cost for the tape or disk is $4.00. To receive the exchange programs, send a $4.00 check or money order and indicate whether you want the cassette or disk version to:

John Colonna
28 Guilfoyle Avenue
Binghamton, N.Y. 13903

P.S. One of our members has offered to also make the exchange tapes available on Larken disk for 5 1/4" DS DD. This also applies to Exchange Tapes #101 and #102 (See SINCUS NEWS Sept./Oct. 1987). This would be done at cost to members. If interested send your name to John Colonna and he will pass that info on to you. Now, now available on cassette, Oliger, and Larken!

SINCUS EXCHANGE TAPE # 103

- SIDE A -

No.	Name	Type	Size	Description
1	anthem	Basic	3K	An appropriate musical start
2	capitals 2	Basic SCREEN	4K	Quiz on capitals or states at 16384, 6912
3	HALLOWEEN	Basic	10K	A bewitching game!
4	PAIRS	Basic	13K	Match 'em if you can
5	QUIZMSTR	Basic	8K	Joan Realy quizzes you
6	SANTA DIL	Basic	7K	Help Santa with his reindeer
7	COIN DROP	Basic	11K	Count those pence
8	HUMOPISO HR	Basic SCREEN	5K	No joke, another quiz-J. Kealy at 16384, 6912
9	SQUAN-T SQUATINSCR	Basic SCREENS	5K	Now Joan is really cooking! at 16384, 6912
10	STOKVALU	Basic	3K	Figure your Wall St. worth
11	tvchk	Basic	1K	MERGE this to check listing
12	bships	Basic	6K	Traditional 'Battleships' game
13	net worth	Basic	5K	What are you worth - $
14	SINEWAVE	Basic	1K	Plotting of sinewave
15	solitaire	Basic	8K	Traditional card game
16	squire	Basic	13K	Game for joysticks
17	file4	Basic	2K	JLO loader-see REM in line 230
18	Piflet	Basic	12K	Arcade rifle range

SINCUS NEWS is the newsletter of the Sinclair Computer Users Society, a non profit
organization operated by volunteers dedicated to the Sinclair and Timex Sinclair
computer user. Any repros of ads, or any product or services mentioned are not an
endorsement but an informational service provided to SINCUS members. Views and
opinions are not necessarily the those of the society. Any modification to your
computer as a result of any article contained in SINCUS NEWS is done at your risk.
We do not take responsibility for any typographical errors.

WANTED: Used TS2068s. Send your info to this newsletter, price, working/non-
working. Name and address. Limited number of buyers, mail early!

Jan/Feb issue of Time Designs Magazine arrived yesterday, the editor, Tim Woods
states that TDM will NOT go into covering IBM machines and clones there of. Hurray
for Tim and TDM. We need support specific to the Sinclair/Amstrad machines. Using
parts from other machines to enhance our computers would be great, and how to
articles on both hardware and software. How to use software, written for the
absolute beginner maybe of more help to many, I'm sure very few know how to use
spreedsheet programs, and many have problems with interfacing a full size printer.
There is a reader survey for you to input your ideas.

                              NEW STUFF:
256K RAM Boards- see Larken ad

Ask your favorite TS dealer about PC-Draw version 3.0, at $19.95- make drawing of
printed circuit boards suitable for photoetching!

LOTTO - new software! write to Knighted Computers

Jack Dohaney's new catalog- send a dollar and a self-addressed stamped envelop
(SASE) to Jack Dohaney, 390 Rutherford Ave, Redwood City, CA 94061.

EPROM eraser- erases in 3 minutes-(24 and 28 pin)-$34.95 write to The John Oliger
Co., 11601 Whidbey Dr., Cumberland, IN 46229

Thanks to John Colonna, Hal Bellinson, Don Lamen for their help with this issue,
and thanks to Bill Walker and Bill Tilley for the programs, they will be part of
the next swap tape/disc. Watch out for the dreaded April fool's day programming
tip! or article! Till next issue keep those cards and letters coming and stay
healthy!

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